

LISTING OF CLAIMS

This listing of claims replaces all prior versions and listings of claims in the patent application.

Claim 1 (currently amended): A surface treatment apparatus for generating plasma by a plasma generating electrode electrodes in a casing having said plasma generating electrodes electrode, a raw-gas inlet and a substrate supporting table, plasma ionizing the raw gas and plasma processing a surface of said substrate, which is mounted on said substrate supporting table; wherein

said casing is partitioned to two chambers, that is, a plasma generating chamber provided with said plasma generating electrode electrodes and a substrate processing chamber provided with said substrate supporting table, ~~one of the~~ said plasma generating electrode electrodes separates the plasma generating chamber from the substrate processing chamber;

said substrate processing chamber communicates with said plasma generating chamber through at least one plasma vent which is formed at said ~~one of the~~ plasma generating electrodes electrode; and

~~the electrodes, which are electrodes disposed in pair so as to be opposed to each other interposing interpose~~ a plasma flow spurted out from the plasma vent ~~therebetween for not disturbing the plasma flow; or said electrode in an orifice shape concentrically disposed beneath the plasma vent~~ are/is provided in and between the vicinity of said plasma vent and the vicinity of said substrate supporting table.

Claim 2 (withdrawn): A surface treatment apparatus for generating plasma by plasma generating electrodes in a casing having plasma generating electrodes, a raw-gas inlet and a substrate supporting table, plasma ionizing the raw gas and plasma processing a surface of said substrate, which is mounted on said substrate supporting table; characterized in that

said casing is partitioned to two chambers, that is, a plasma generating chamber provided with said plasma generating electrodes and a substrate processing chamber provided with said substrate supporting table;

said substrate processing chamber communicates with said plasma generating chamber through at least one plasma vent; and

a magnetic field, in which a line of magnetic force acts in a direction orthogonal to a plasma flow, is provided in at least a part between the vicinity of said plasma vent and the vicinity of said substrate supporting table.

Claim 3 (withdrawn): A surface treatment apparatus for generating plasma by plasma generating electrodes in a casing having plasma generating electrodes, a raw-gas inlet and a substrate supporting table, plasma ionizing the raw gas and plasma processing a surface of said substrate, which is mounted on said substrate supporting table; characterized in that said casing is partitioned to two chambers, that is, a plasma generating chamber provided with said plasma generating electrodes and a substrate processing chamber provided with said substrate supporting table;

said substrate processing chamber communicates with said plasma generating chamber through at least one plasma vent; and

a conductive member, to which electric voltage is applied, is provided at a part of said plasma vent.

Claim 4 (withdrawn): A surface treatment apparatus according to claim 3, wherein said conductive member comprises a mesh-shaped or a grid-shaped conductive sheet.

Claim 5 (currently amended): A surface treatment apparatus according to claim 1, wherein high frequency electric power is inputted to said plasma generating electrodes electrode.

Claim 6 (cancelled)

Claim 7 (previously presented): A surface treatment apparatus according to claim 1, wherein said plasma vent has a required orifice shape or a nozzle shape.

Claim 8 (previously presented): A surface treatment apparatus according to claim 1, wherein said raw-gas inlet defines an opening on a side face of said plasma vent.

Claim 9 (withdrawn): A surface treatment apparatus according to claim 2, wherein said magnetic field is provided at said plasma vent.

Claim 10 (previously presented): A surface treatment apparatus according to claim 1, wherein said plasma vent has a circular section.

Claim 11 (previously presented): A surface treatment apparatus according to claim 1, wherein said plasma vent has a slit shape.

Claim 12 (previously presented): A surface treatment apparatus according to claim 1, wherein said substrate is given with electric potential.